

# SUBJECT INDEX

Vol. 123A, Nos. 1-4

- Acclimation, 35  
 Acetazolamide, 147  
 Acetylcholine, 409  
 Acidosis, 221  
 Acidosis and chemical hypoxia, 417  
 Activation, 17  
 Activity pattern, 293  
 Affinity chromatography, 213  
 Air-breathing, 343  
 Allozymes, 155, 241  
*Amia calva*, 343  
 Amiloride, 377, 417  
 Amino acid, 55, 137  
 Amino acids, 269  
 Amino acid sequence, 203  
 Aminopeptidase-N, 83  
 Ammonia, 43  
 Amphibian ecology, 313  
 Amphibian morphology, 313  
 Amphibian natural history, 313  
 Amphibian physiology, 313  
 Amphibians, 313  
 Angiotensin II, 279  
 Anion exchange, 343  
 Annelid, 409  
 Anodonta, 337  
 Apnea, 221  
 Arctic charr, 287  
*Asterias rubens*, 263  
 Avian embryo, 1
- Baclofen, 369  
 Bacteria, 235  
 Bafilomycin A<sub>1</sub>, 337  
 Basal metabolic rate, VO<sub>2</sub>max, 155  
 BASP, 385  
 Behaviour, 95  
 Bile, 25  
 Biomineralization, 269  
 Blood pressure, 279  
 Body temperature, 279, 293  
 Bohr effect, 329  
 Bowfin, 343  
 Bursa of Fabricius, 385  
 Butyrate, 399
- Ca<sup>2+</sup>-ATPase, 163  
 Caecilians, 313  
 Calbindin, 147  
 Calcium, 61  
 Calcium deficiency, 147  
 Cane rat, 129  
 Carbon dioxide, 343  
 Carbonic anhydrase, 343  
 Cardiac activity, 89  
 Cardiovascular, 69  
<sup>45</sup>Ca<sup>2+</sup> release, 163  
 Carnivora, 187  
 Carp, 61  
 Ca<sup>2+</sup> store, 163  
 Catfish, 369  
 Cathepsin B, 1  
 Cathepsin D, 1  
<sup>45</sup>Ca<sup>2+</sup> uptake, 163  
 Cell culture, 9  
 Central Chile, 393
- Channel catfish, 9  
 Chemical gill uptake, 69  
 Chemical structure, 187  
 Chin gland, 179  
 Chloroethanes, 69  
 Chlorophenol red, 263  
 Choline, 255  
 Coati, 187  
 Collagenase, 9  
*Columba livia*, 279  
 Concanamycin A, 337  
 Conductance, 293  
 Condylura, 293  
 Contents, 235  
 Copepod, 195  
 Cotransport, 255  
 Crocodile, 17  
 Crop-gizzard, 409  
 Cross shelf transport, 351  
 Crustacea, 203, 377  
 Crustacean, 55  
 Cu, 89  
 Cuticle, 203  
 Cystatin, 1
- D-Alanine, 55  
 Decapods, 203  
 Depolarization, 17  
 Development, 113  
 DIDS, 377  
 Diet, 83  
 Dietary flexibility, 83  
 Digestibility, 129  
 Digestion, 83  
 1,25-Dihydroxycholecalciferol, 147  
 Dimensions, 173  
 Disaccharidases, 83  
 Diving reflex, 221  
 DNA synthesis, 385  
 Dormancy, 195
- Earthworms, 241  
 Echinodermata, 263  
 EDTA, 9  
 Egg shell, 147  
*Eisenia andrei*, 241  
 Electrical, 17  
 Electrolytes, 25  
 Electron microscopy, 61  
 Elopomorpha, 113  
 Energy, 137  
 Energy partitioning, 221  
 Energy store, 351  
 Environmental stress, 241  
 Epithelium, 25, 399  
*Eriocheir japonicus*, 55  
 Erythrocytes, 343  
 Estrogen, 179  
 Evolution, 155  
 Excretion, 263  
 Exoskeleton, 203
- Fatty acid, 137  
 Fatty acids, 249  
 Fibre, 129  
 Field potentials, 95
- Fish, 343  
 FMRFamide, 409  
 Food chemistry, 83  
 Frequency analysis, 95
- GABA<sub>A</sub> receptor, 369  
 Gallbladder, 25  
 Genetic variation, 155  
 Genotype, 155  
 Genotype × environment interaction, 241  
 GnRH analogue, 369  
 Gonadotropin-II, 369  
 G6PDH, 9  
 Growth, 129  
 Gymnophiona, 313
- Hawaiian monk seal, 137  
 Heart, 17, 61  
 Heart rate, 89, 279  
 Heat shock proteins, 35  
 Heat shock response, 35  
*Helix pomatia*, 95  
 Hematology, 69  
 Hemicholinium-3 (HC-3), 255  
 Hemolymph, 55  
 Hepatocyte, 9  
 Heterozygosity, 155  
 High altitude acclimatization, 221  
 Hindgut, 235  
<sup>1</sup>H-NMR, 187  
 House mice, *Mus domesticus*, 155  
 Human hemoglobin, 329  
 Human red blood cell, 329  
 Hydromineral balance, 25  
 Hypothalamic GABA, 369  
 Hypothermia, 221  
 Hypoxia, 69, 195
- Immunocytochemistry, 179  
 Impedance pneumography, 89  
 Inhibitors, 337  
 Insectivore, 293  
 Interaction, 359  
 Intestine, 235  
 Intracellular calcium, 299  
 Intracellular chloride content, 287  
 Intracellular pH, 417  
 Intracellular potassium content, 287  
 Intracellular sodium, 299  
 Intracellular sodium content, 287  
 Ions, 25
- Jaanus edwardsii*, 351
- Kinetics, 399
- Lake trout, 69  
 L-Alanine, 55  
 Lamprey, 35  
 Larvae, 113, 249  
 Laying hen, 147  
 LDH, 9  
 Leptocephali, 113  
 Life cycle, 35

# SUBJECT INDEX

Vol. 123A, Nos. 1-4

- Acclimation, 35  
 Acetazolamide, 147  
 Acetylcholine, 409  
 Acidosis, 221  
 Acidosis and chemical hypoxia, 417  
 Activation, 17  
 Activity pattern, 293  
 Affinity chromatography, 213  
 Air-breathing, 343  
 Allozymes, 155, 241  
*Amia calva*, 343  
 Amiloride, 377, 417  
 Amino acid, 55, 137  
 Amino acids, 269  
 Amino acid sequence, 203  
 Aminopeptidase-N, 83  
 Ammonia, 43  
 Amphibian ecology, 313  
 Amphibian morphology, 313  
 Amphibian natural history, 313  
 Amphibian physiology, 313  
 Amphibians, 313  
 Angiotensin II, 279  
 Anion exchange, 343  
 Annelid, 409  
 Anodonta, 337  
 Apnea, 221  
 Arctic charr, 287  
*Asterias rubens*, 263  
 Avian embryo, 1
- Baclofen, 369  
 Bacteria, 235  
 Bafilomycin A<sub>1</sub>, 337  
 Basal metabolic rate, VO<sub>2</sub>max, 155  
 BASP, 385  
 Behaviour, 95  
 Bile, 25  
 Biomineralization, 269  
 Blood pressure, 279  
 Body temperature, 279, 293  
 Bohr effect, 329  
 Bowfin, 343  
 Bursa of Fabricius, 385  
 Butyrate, 399
- Ca<sup>2+</sup>-ATPase, 163  
 Caecilians, 313  
 Calbindin, 147  
 Calcium, 61  
 Calcium deficiency, 147  
 Cane rat, 129  
 Carbon dioxide, 343  
 Carbonic anhydrase, 343  
 Cardiac activity, 89  
 Cardiovascular, 69  
<sup>45</sup>Ca<sup>2+</sup> release, 163  
 Carnivora, 187  
 Carp, 61  
 Ca<sup>2+</sup> store, 163  
 Catfish, 369  
 Cathepsin B, 1  
 Cathepsin D, 1  
<sup>45</sup>Ca<sup>2+</sup> uptake, 163  
 Cell culture, 9  
 Central Chile, 393
- Channel catfish, 9  
 Chemical gill uptake, 69  
 Chemical structure, 187  
 Chin gland, 179  
 Chloroethanes, 69  
 Chlorophenol red, 263  
 Choline, 255  
 Coati, 187  
 Collagenase, 9  
*Columba livia*, 279  
 Concanamycin A, 337  
 Conductance, 293  
 Condylura, 293  
 Contents, 235  
 Copepod, 195  
 Cotransport, 255  
 Crocodile, 17  
 Crop-gizzard, 409  
 Cross shelf transport, 351  
 Crustacea, 203, 377  
 Crustacean, 55  
 Cu, 89  
 Cuticle, 203  
 Cystatin, 1
- D-Alanine, 55  
 Decapods, 203  
 Depolarization, 17  
 Development, 113  
 DIDS, 377  
 Diet, 83  
 Dietary flexibility, 83  
 Digestibility, 129  
 Digestion, 83  
 1,25-Dihydroxycholecalciferol, 147  
 Dimensions, 173  
 Disaccharidases, 83  
 Diving reflex, 221  
 DNA synthesis, 385  
 Dormancy, 195
- Earthworms, 241  
 Echinodermata, 263  
 EDTA, 9  
 Egg shell, 147  
*Eisenia andrei*, 241  
 Electrical, 17  
 Electrolytes, 25  
 Electron microscopy, 61  
 Elopomorpha, 113  
 Energy, 137  
 Energy partitioning, 221  
 Energy store, 351  
 Environmental stress, 241  
 Epithelium, 25, 399  
*Eriocheir japonicus*, 55  
 Erythrocytes, 343  
 Estrogen, 179  
 Evolution, 155  
 Excretion, 263  
 Exoskeleton, 203
- Fatty acid, 137  
 Fatty acids, 249  
 Fibre, 129  
 Field potentials, 95
- Fish, 343  
 FMRFamide, 409  
 Food chemistry, 83  
 Frequency analysis, 95
- GABA<sub>A</sub> receptor, 369  
 Gallbladder, 25  
 Genetic variation, 155  
 Genotype, 155  
 Genotype × environment interaction, 241  
 GnRH analogue, 369  
 Gonadotropin-II, 369  
 G6PDH, 9  
 Growth, 129  
 Gymnophiona, 313
- Hawaiian monk seal, 137  
 Heart, 17, 61  
 Heart rate, 89, 279  
 Heat shock proteins, 35  
 Heat shock response, 35  
*Helix pomatia*, 95  
 Hematology, 69  
 Hemicholinium-3 (HC-3), 255  
 Hemolymph, 55  
 Hepatocyte, 9  
 Heterozygosity, 155  
 High altitude acclimatization, 221  
 Hindgut, 235  
<sup>1</sup>H-NMR, 187  
 House mice, *Mus domesticus*, 155  
 Human hemoglobin, 329  
 Human red blood cell, 329  
 Hydromineral balance, 25  
 Hypothalamic GABA, 369  
 Hypothermia, 221  
 Hypoxia, 69, 195
- Immunocytochemistry, 179  
 Impedance pneumography, 89  
 Inhibitors, 337  
 Insectivore, 293  
 Interaction, 359  
 Intestine, 235  
 Intracellular calcium, 299  
 Intracellular chloride content, 287  
 Intracellular pH, 417  
 Intracellular potassium content, 287  
 Intracellular sodium, 299  
 Intracellular sodium content, 287  
 Ions, 25
- Jaanus edwardsii*, 351
- Kinetics, 399
- Lake trout, 69  
 L-Alanine, 55  
 Lamprey, 35  
 Larvae, 113, 249  
 Laying hen, 147  
 LDH, 9  
 Leptocephali, 113  
 Life cycle, 35

## Subject Index

- Limpet, 89
- Lipid, 351
- Liver, 9
- Locomotion, 155
- Lumbricus terrestris*, 409
- Lymphocyte, 385
- Mammalian hibernation, 221
- Marsupial, 393
- Mass spectrometry, 203
- Membrane fluidity, 287
- Metabolic cost, 393
- Metabolic size allometry, 221
- Metabolism, 293, 359
- Metals, 89
- Metamorphosis, 113, 249
- Milk, 187
- Minerals, 137
- Moisture, 241
- Monosaccharides, 269
- MRNA, 147
- Mucin, 235
- Mucosa, 235
- Muscle, 55
- Myocardial, 17
- Na/Ca exchange, 299
- NaCl absorption, 377
- Na<sup>+</sup>/H<sup>+</sup> exchanger-1, 417
- Nasua narica*, 187
- Neonatal hypoxia tolerance, 221
- Nereis*, 213
- Neurons, 163
- New Zealand, 351
- Nutrients, 129
- Olfactory, 95
- Oligochaete, 409
- Oligosaccharide, 187
- Oncorhynchus mykiss*, 43
- Ontogeny, 83
- Oocyte, 213
- Osmolality, 25
- Osmoregulation, 25, 55, 377
- Ostrea edulis*, 249
- Outer mantle epithelium, 337
- Ovariectomy, 369
- Oxygen affinity, 329
- Oxygen consumption, 195
- Para-aminohippuric acid, 263
- Patella vulgata*, 89
- Patent blue V, 263
- Perfusion, 9
- Petromyzon marinus*, 35
- PH, 43, 359
- Phospholipase A<sub>2</sub> (PLA<sub>2</sub>), 255
- Photoperiod, 213
- PH-paradox, 417
- Physiology, 113
- Pigeon, 279
- Pigeon red blood cell, 329
- Pimozide, 369
- Plasma, 25
- Plasticity, 83
- Polychaete, 213
- Post-metamorphosis, 249
- Prey composition, 137
- Principal component analysis, 269
- Procyonidae, 187
- Progesterone, 179
- Proliferation, 385
- Protein, 137
- Protein kinase C (PKC), 255
- Protein metabolism, 1
- Protein synthesis, 43
- Proximate analysis, 137
- Puerulus, 351
- Quinacrine (QUIN), 255
- Rabbit, 179
- Rainbow trout, 43, 287
- Rat, 61, 235
- Ration, 43
- Reaction norm, 83
- Rectal caeca, 263
- Red blood cell, 287
- Reperfusion injury, 417
- Respiration, 69
- Rewarming rate, 393
- RNA, 43
- Rock pools, 195
- Rumen, 399
- Rumen epithelium, 359
- Ryanodine, 61
- Salvelinus namaycush*, 69
- Sarcoplasmic reticulum, 61
- Scent-glands, 179
- Scent-marking, 179
- SCFA, 399
- Scleractinia*, 269
- Seasonality, 287
- Semicircular canal, 173
- Sensitivity, 173
- Septum, 17
- Serotonin, 409
- Sexual dimorphism, 179
- Shivering, 279
- Short-chain fatty acids, 359
- Siphonops annulatus*, 313
- Skeletal organic matrices, 269
- Skinned fiber, 61
- Snake, 25
- Spawning migration, 55
- Spectrocolorimetric assay, 235
- Spiny lobster, 351
- Split gill lamellae, 377
- Spontaneously hypertensive rat heart, 299
- Star-nosed mole, 293
- Staurosporine (STAURO), 255
- Structural protein, 203
- Survivorship, 241
- Symbiosis, 269
- Talpa europaea*, 173
- TBTO, 337
- Teleost fishes, 113
- Temperature, 43, 195, 241, 329
- Thapsigargin, 163
- Thermal acclimation, 287, 393
- Thermal biology, 293
- Thermoregulation, 393
- Thryonomys*, 129
- Thylamys elegans*, 393
- Tigriopus*, 195
- Tissue-specific response, 35
- Torpor arousal, 393
- Trafficking, 255
- Transepithelial conductance, 377
- Transepithelial short-circuit current, 377
- Transport, 359, 399
- Trout red blood cell, 329
- Turtle brain, 221
- Uncompetitive titratable sites, 417
- Vasotocin, 279
- Ventricle, 17
- Vertebrate hemoglobin, 329
- Vitellin, 213
- Vitellogenesis, 213
- V-type proton pump, 337
- Yolk, 213
- Yolk sac membrane, 1
- Zn, 89

# AUTHOR INDEX *Vol. 123A, Nos. 1-4*

- Abbud, R. A., 417  
 Abe, H., 55  
 A. Carter, P., 155  
 Ako, H., 137  
 Amano, H., 55  
 Andersen, S. O., 203  
 Anderson, S. E., 299  
 Andrieux, C., 235  
 Arai, I., 187  
 Atherley, R., 299  
 Atkinson, S., 137
- Bar, A., 147  
 Barrias, C., 337  
 Başar, E., 95  
 Bikhazi, A. B., 417  
 Bozinovic, F., 83, 393  
 Brown, I. R., 35  
 Bullock, T. H., 95
- Cala, P. M., 299  
 Caldwell, D. J., 385  
 Caldwell, D. Y., 385  
 Camacho-Arroyo, I., 179  
 Campbell, K. L., 293  
 Carpenter, J. R., 137  
 Cerbón, M. A., 179  
 Christian, E., 17  
 Chugun, A., 61  
 Cuif, J. P., 269
- da Costa, A. R., 337  
 Dauphin, Y., 269  
 Davenport, J., 195  
 Davies, M. S., 89  
 D'Cruz, L. M., 43  
 Dean, C. E., 385  
 Detlef Møller, P., 399  
 Diehl, W. J., 241  
 Diernæs, L., 359, 399  
 Dockray, J. J., 43  
 Dohm, M. R., 155
- Fernández-Reiriz, M. J., 249  
 Ferreira, H. G., 337  
 Fleming, S., 89  
 Fontaine, N., 235  
 Ford, B. D., 255  
 Freiwald, A., 269
- Gamboa-Domínguez, A., 179  
 Garland, Jr., T., 155  
 Gautret, P., 269  
 Gerhartz, B., 1  
 Gervais, M. R., 343  
 González-Agüero, G., 179
- González-Mariscal, G., 179  
 Goodman-Lowe, G. D., 137  
 Goos, H. J. T., 369  
 Gray, S. D., 299  
 Grigg, G. C., 17
- Haddad, G. E., 417  
 Hara, Y., 61  
 Hargis, B. M., 385  
 Hassinen, E., 279  
 Hayes, J. P., 155  
 Hissa, R., 279  
 Hoffman, A. D., 69
- Ivy, M. T., 255
- Jangoux, M., 263  
 Jared, C., 313  
 Jeffs, A. G., 351  
 Jenson, C. T., 69  
 Jones, H. D., 89  
 Joy, K. P., 369
- Kawahara, K., 187  
 Klover, R. W., 409  
 Kolb, H. J., 1  
 Kondo, H., 61  
 Krajniak, K. G., 409
- Labarta, U., 249  
 Ladd Prosser, C., 9  
 Lagos, J. A., 83  
 Lecklin, T., 287  
 Lien, G. J., 69  
 Linton, T. K., 43
- MacArthur, R. A., 293  
 Marchán, S., 89  
 McAllen, R., 195  
 McElroy, A. P., 385  
 McElroy, T. C., 241  
 McIntyre, I. W., 293  
 McKim, J. M., 69  
 McVean, A., 173  
 Meslin, J.-C., 235  
 Meyer, A. J., 129  
 Mimura, O. M., 25  
 Møller, P. D., 359  
 Morgan, I. J., 43  
 Mtshali, C. P., 255
- Nabhan, S. I., 417  
 Nakamura, T., 187  
 Namiki, M., 187  
 Navas, C. A., 313  
 Nespolo, R. F., 393
- Nikinmaa, M., 287  
 Noda, H., 55
- Okuma, E., 55  
 Oliveira, P. F., 337  
 Olive, P. J. W., 213  
 Onken, H., 377  
 Opazo, J. C., 393  
 Oyamada, T., 61
- Pérez-Camacho, A., 249  
 Pfeiler, E., 113  
 Presley, M. L., 241  
 Pyörnilä, A., 279
- Rees, S. W., 213
- Sabat, P., 83  
 Saito, T., 187  
 Schütt, A., 95  
 Seddon, W. L., 9  
 Sehested, J., 359, 399  
 Silveira, P. F., 25  
 Singer, D., 221  
 Singh, A. K., 163  
 Skadhauge, E., 359, 399  
 Striem, S., 147
- Taylor, A. C., 195  
 Temma, K., 61  
 Tharakan, B., 369  
 Toledo, R. C., 313  
 Townsel, J. G., 255  
 Tufts, B. L., 343
- Urashima, T., 187
- van der Merwe, M., 129  
 van Zyl, A., 129  
 Vax, E., 147  
 Vorger, P., 329
- Warnau, M., 263  
 Watanabe, K., 55  
 Wells, R. M. G., 351  
 Willmott, M. E., 351  
 Wittmann, J., 1  
 Wood, C. M., 43  
 Wood, L. A., 35
- Yamamoto, M., 187  
 Yamaoka, K.-i., 187  
 Youson, J. H., 35
- Ziadeh, A. G., 417  
 Zibrowius, H., 269

